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THESIS

CENTRALIZATION OR DECENTRALIZATION? A CASE STUDY OF THE MILITARY SEALIFT COMMAND'S SPECIAL MISSION PROGRAM

by

Sandra L. Whatley

March 1996

Co- Advisors: William R. Gates
David G. Brown

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This thesis asks the question: Should the Military Sealift Command's (MSC's) Special Mission Program be decentralized or kept centralized? The special mission ships support a combination of service unique non-transportation and non-fleet ship missions for a variety of sponsors. This thesis seeks to determine why the centralization/decentralization question is being asked by both MSC and the ships' sponsors. The thesis also examines whether the economies of scale and scope justify MSC maintaining the Special Mission Program; or if not; the ships would operate more efficiently and effectively under the cognizance of their sponsors. The analysis incorporates the current re-engineering changes being made within MSC. The findings suggest that the economies of scale and scope achieved from centralizing the special mission ships, with some additional modifications, are greater than the benefits which would be derived from decentralizing the ships' operations.

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CENTRALIZATION OR DECENTRALIZATION? A CASE STUDY OF THE MILITARY SEALIFT COMMAND'S SPECIAL MISSION PROGRAM

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Submitted in partial fulfillment
of the requirements for the degree of

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ABSTRACT

This thesis asks the question: Should the Military Sealift Command's (MSC's) Special Mission Program be decentralized or kept centralized? The special mission ships support a combination of service unique non-transportation and non-fleet ship missions for a variety of sponsors. This thesis seeks to determine why the centralization/decentralization question is being asked by both MSC and the ships' sponsors. The thesis also examines whether the economies of scale and scope justify MSC maintaining the Special Mission Program; or if not; the ships would operate more efficiently and effectively under the cognizance of their sponsors. The analysis incorporates the current re-engineering changes being made within MSC. The findings suggest that the economies of scale and scope achieved from centralizing the special mission ships, with some additional modifications, are greater than the benefits which would be derived from decentralizing the ships' operations.

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I. INTRODUCTION AND PROBLEM STATEMENT

This chapter will provide a brief background of the Unified Transportation Command (USTRANSCOM) component command, the Military Sealift Command (MSC), followed by a discussion of MSC's organization and funding as it pertains to the Special Mission Ships program area. Lastly, a problem statement is presented concerning the pros and cons of decentralizing the responsibility for operating special mission ships.

A. BACKGROUND

The United States Transportation Command is the unified command responsible for the strategic transportation of troops and equipment for the Department of Defense (DoD). USTRANSCOM is the focal point for establishing and maintaining a national Defense Transportation System. USTRANSCOM has three component commands: Air Force Air Mobility Command (AMC), Army Military Traffic Management Command (MTMC), and Navy Military Sealift Command (MSC).

MSC is delegated the operational control of sealift transportation services for all of the armed services using military and commercial transportation modes. MSC has three mission areas: Strategic Sealift, Naval Fleet Auxiliary Force (NFAF), and Special Mission Support Force. [Ref. 1]

Currently, MSC is undergoing a re-engineering effort that emphasizes improving customer satisfaction. The reinvention effort has reorganized the management structure from functional area directorates to a program management structure based on major service lines. This new structure is designed to enhance customer satisfaction by establishing a mission oriented team which serves all the customer functional needs. In effect it will provide the cohesiveness of program

owner-ship by the MSC employees and, in addition, add visibility to cost and resource allocations.

B. THE A-76 PROGRAM

It is widely accepted that competition results in improved quality and reduced costs. It is also believed that in many cases the federal government operates inefficiently due to the lack of competition for producing goods and services. The A-76 program was embraced by the Reagan Administration as a means to promote efficiency and reduce costs in the government by having government agencies compete with commercial activities for contracts. Competition was intended to create an incentive for government operations to optimize their productivity.

1. 1983 OMB A-76 Supplemental Handbook

OMB Circular No. A-76, "Performance of Commercial Activities," was first issued in 1966 and revised in 1967, 1979, and 1983. The basis of the circular is the belief that the federal government is too large and expensive, and that it is in the best interest of the economy for the government to use commercial goods and services when they are available. The OMB A-76 Supplemental Handbook provides guidance and procedures for determining whether recurring commercial activities should be operated under contract with commercial sources or in-house using Government facilities and personnel [Ref. 2]. The 1983 Supplemental Handbook required agencies to:

> ...develop an inventory of all operations that potentially could be performed by private contractors. Activities that were determined to be 'inherently governmental in nature,' that is, activities 'so intimately related to the public interest as to mandate performance only by Federal employees,' were not to be contracted out.... The A-76 circular established a review process to determine whether public or private workers could do the job more efficiently. The key, in concert with the competition prescription, was the creation of a competition between the government and contractors. [Ref. 3]

Figure 1 is an outline of the cost comparison methodology that the 1983 circular mandated agencies to follow when making in-house or out-sourcing decisions to achieve the "most efficient organization." The goal was to increase efficiency by encouraging federal agencies to contract out to private industry those activities that could be performed at lower costs and to provide incentives for agencies to reduce the cost of government operations to compete with the private sector.

2. MSC's Implementation of the A76 Program

One of President Reagan's campaign promises was to privatize more Navy and Marine operations which would provide jobs for merchant mariners. In 1981, the Joint Maritime Congress contracted for a study by Booz, Allen, and Hamilton concerning the feasibility of civilian contract operation of government ships. The study concluded MSC could potentially contract out the operations of some of its ships. The 1983 revision of OMB circular A-76 required all federal agencies to determine which functions could potentially be performed by the private sector. The revision combined with pressure from the Seafarers International Union (SIU) led the Secretary of the Navy to assess the cost of out-sourcing MSC ship operations. In 1984 the Deputy Chief of Naval Operations for Logistics directed the Commander of MSC to develop and issue a Request for Proposal (RFP) to implement contract manning for the special mission ships (SMSs). The first class of ships to go through the RFP process was the oceanographic ships and the contract was awarded to Lavino Shipping Company at an estimated savings of $24.8 million. The range, cable, and hospital ships (at the time the hospital ships were under the SMS category) were all awarded in-house contracts largely due to a reduction in ship crew manning levels. [Ref. 4]

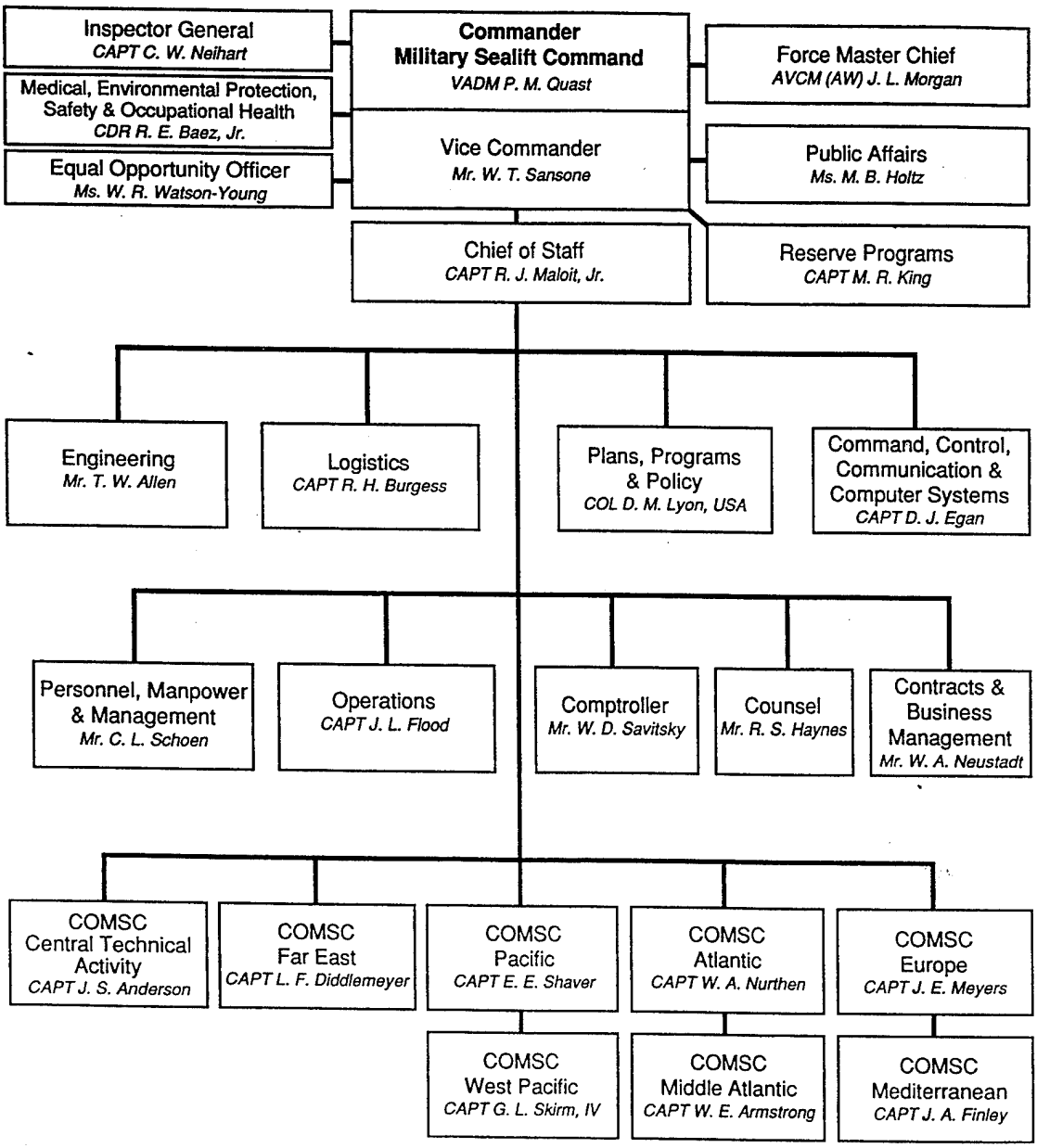

Figure 1. A76 Cost Comparison Methodology

C. SPECIAL MISSION PROGRAM

The Special Missions Program (PM-2), formerly the Special Missions Ship Support Force (SMSF), is one of the six new program management mission areas in the reorganized MSC. Currently twenty-nine ships fall under PM-2; eight civilian mariner operated, seventeen contractor-operated, and four chartered (The USNS WILKES has been turned-over to the Tunisian government as of FY95). The program customers include: the Naval Meteorology and Oceanographic Command, the Space and Naval Warfare Command (SPAWAR), the Naval Sea Systems Command (NAVSEA), the Air Force Technical Analysis Command (AFTAC), the Strategic Systems Programs (SSP), and the Commander in Chief of the Atlantic Fleet (CINCLANTFLT). The TAGOS and CHOUEST class ships were placed in the Special Mission Program in FY96 as part of the MSC re-engineering effort. [Ref. 5] MSC's special mission ships support a combination of service unique non-transportation and non-fleet ship requirements from a variety of sponsors. The specialized military services include oceanographic and hydrographic surveys, undersea surveillance, acoustic research, missile telemetry collection and range instrumentation. The SMSs are both civilian mariner and contractor mariner operated. The non-ship operations, such as research, are the responsibility of the sponsors. MSC provides and oversees the ship operations. [Ref. 1]

D. DEFENSE BUSINESS OPERATIONS FUND

The *Practical Comptrollership*, Naval Postgraduate School Instruction Guide describes the Defense Business Operations Fund (DBOF) as:

> **The DBOF serves as a financing mechanism. Those activities that are financed by the DBOF do not receive an annual appropriation. Instead, they receive unit cost goals and earn cost authority for the amount of every customer order accepted.** As DBOF activities accept these orders and perform work for their customers, they use cash in the DBOF to pay for their costs.

> Customers are then billed based on the stabilized rate and the customers reimburse the DBOF. This revolving cycle continues, hence the DBOF is considered a **revolving fund.**

The DBOF policies include recovery of prior year losses, charging military personal costs using a civilian equivalency rate, and the inclusion of management headquarters cost in the prices charged to customers. [Ref. 6]

1. DBOF at MSC

MSC was funded under the Navy Industrial Fund (NIF) prior to FY 1992. In October 1991, transportation was established as a business area of the Defense Business Operation Fund (DBOF). MSC operates under DBOF in two separate capacities. One is as the Transportation Component Command (TCC) for sealift to Commander In Chief, U.S. Transportation Command; the budget for that mission is included in Transportation business area of the DBOF controlled by TRANSCOM (DBOF-T). The second major mission is as the Type Commander for Chief of Naval Operations (CNO) for a number of service unique vessels (DBOF-N), such as the special mission ships (SMSs). [Ref. 7]

One of the basic tenets of the DBOF is to define and centrally manage total costs of a ship, program or operation. To that end, certain costs such as headquarter overhead, military personnel costs and a prorated share of USTRANSCOM costs are included in MSC programs. SMS is a DBOF-N program, as such USTRANSCOM costs are not included in SMS per diem rates as they would if under DBOF-T. [Ref. 7]

As part of the DBOF policy of total costing, OSD guidance regarding headquarter's costs changed. Whereas in FY88 to FY92, HQ costs were funded via a separate appropriation, and not included in MSC rates, adaptation of DBOF policies charged these costs to DBOF. To allow both MSC and its customers to properly plan and budget for this change, headquarters costs in FY 1993 were not included in customers rates but were funded as a direct reimbursable from Navy's

centralized claimancy OP-09BF (now called N09BF). Military costs, previously directly funded by MILPERS appropriation, are now reimbursed by MSC to MILPERS and these costs are included in customers' rates. [Ref. 7]

2. MSC's Per Diem Rates

MSC breaks customer per diem rates into two types of costs: direct costs and overhead expenses. The ship's sponsor pays a per diem rate for the individual ship and is charged for each day the ship is dedicated to that sponsor's use. MSC has two operating per diem rates applied to sponsors: Full Operating Status (FOS) and Reduced Operating Status (ROS). The per diem is a stabilized rate and any variance between actual and applied costs are recovered in future years. [Ref. 7]

The *Practical Comptrollership* defines direct costs as those incurred directly for and readily identifiable to a specific output or service, a ship in this case. Direct costs are those which can be ascribed to the operation of a ship and include maintenance and repair (M&R), fuel, overhauls, and crew wages. [Ref. 8]

MSC's overhead includes all headquarters and shore activity costs. MSC's overhead costs are pro-rated to each ship based on a percentage allocation method that requires best estimates by the directorates as to the time spent on each of the six programs and the associated endstrengths. It is referred to as rate-recoverable overhead. Overhead is allocated on a two tiered method, costs that are directly attributed to a specific program are delegated to that program (similar to indirect costs in private industry). The indirect costs (general and administration, ADP etc.) are then allocated based on the percentage of total shore personnel workyears dedicated to the Special Mission Program. The area commands calculate overhead by determining the percentage of time devoted to each program and multiplying it by the total rate-recoverable overhead pool. The next step is to apportion overhead to each individual ship as a percentage of the direct expenditures for that class of ship. [Ref. 7]

E. IMPORTANCE OF THE RESEARCH

MSC's renewed emphasis on customer satisfaction has encouraged MSC to analyze the need for the Special Mission Support Force Program area. Several factors have led SMS sponsors to raise the question of privatizing the ships' operations and letting the sponsors be responsible for the contracts' administration and management. The significant reductions in the Department of Defense (DoD) budget and manpower strengths, and the implementation of the DBOF rate structure by MSC, have placed pressure on the sponsors to look at ways to reduce the costs of operating their ships. The SMS customers are facing increased per diem rates due to DBOF's full cost recovery policy and a high degree of variance in each fiscal year's per diem rate.

This thesis will attempt to evaluate whether MSC can manage the operation the Special Mission Ships more efficiently and effectively than the individual sponsors of the ships. The thesis will try to assess whether there exists economies of scale and/or economies of scope associated with the centralization of the SMS function.

II. METHODOLOGY

The methodology applied in this study is loosely based on OMB Circular A-94, "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs" and John W. Creswell's *Research Design: Qualitative and Quantitative Approaches*. The research data was collected through a literature search and review. In addition, interviews were conducted with MSC staff members, MSC Special Mission Ships sponsors, and other persons knowledgeable in the subject area addressed in the thesis. The method employed is to:

- State the policy rationale for conducting the study. The policy rationale answers the question 'why' conduct the study. It states the justification for performing the research. In other words, the rationale defines the underlying reason behind the analysis and its significance.

- Outline the objective of the thesis. The objective is the qualitative statement which captures the basis of the study and relays to the reader the 'central controlling idea in the study.' It sets the stage for the remainder of the thesis by clearly defining intent behind the analysis. The objective defines the course of action to be taken based on the purpose and, therefore, determines the boundaries of the research. [Ref. 9]

- Define the problem. The most important step in a case study is to define the problem. First, the symptoms generated by the problem must be identified and the scope of the problem determined. The problem statement poses the questions which the thesis will attempt to answer or, at least, provides some insight to concerned parties.

- Declare any assumptions made. The assumptions help define scope of the study and its limitations. If the assumptions in a study are not specified then the author has not accurately given the reader a good measure of the value of the information presented. All research has weaknesses and a narrowness in perspective and it is imperative to provide them.

- Generate and analyze alternative solutions. OMB Circular A-94 suggests examining different program scales, different methods of providing the service, and varied degrees of government involvement.

- Make recommendations and verify the alternative selected. A comprehensive examination of the best alternative and its relevance is necessary to validate the study.

The thesis is organized into five chapters. Chapter I provides a brief background and introduction to the thesis. It discusses the DBOF processes by which MSC operates, the OMB Circular A-76 privatization program and its influence on MSC SMS operations, and the importance of the study. Chapter II defines the methodology. Chapter III presents a detailed examination of the problems which have arisen with the Special Mission Support Force. Chapter IV outlines and evaluates three potential alternatives: centralization (status quo), decentralization (sponsors gain operational control), centralization with decentralized questions and other modifications.

The following four questions will provide the focus of the study:

1. Do any economies of scale or economies of scope exist to justify centralizing the Special Mission Support Force mission?

2. Are there any economies of scale or scope that are not being captured under the current system?

3. If there are economies of scale or scope, are they being correctly allocated to the sponsors?

4. What is the optimal allocation of responsibility for the operation of special mission ships?

Chapter V contains the summary and recommendations.

A. POLICY RATIONALE

The reason for studying the Special Mission Support Force program is to: 1) examine whether centralizing the SMS functions results in economies, 2) attempt

to investigate if the economies being realized, 3) analyze if giving SMS contracting responsibility to the sponsors would reduce total costs and, 4) determine if there is an inherent reason to maintain the centralized control of the SMS ships. The overarching goal is to optimize SMS operations under the DoD budget constraints without detriment to the mission. Total costs of the SMS should be minimized to the point closest to the sponsors' equilibrium in an attempt to equate the marginal costs and marginal benefits to the sponsors.

B. OBJECTIVE

The objective of this thesis is to examine the issue of how to best allocate the complex and mixed responsibility for operating of special mission ships. The SMS program is a hybrid and does not fit into the traditional four quadrant public/private choices of 1) public financing and public sector delivery, 2) public financing and private sector delivery, 3) private financing and private delivery, and 4) private financing and public delivery (ex. U.S. Post Office and national parks) [Ref. 10]. Due to the implementation of the A-76 program, the operation of oceanographic ships are contracted out by MSC and MSC is responsible for administering and managing the contracts. This adds an extra level of 'second party' management not traditionally seen in privatizing a government function. The mixture of special mission programs involving both government-owned/ government operated and government-owned/contractor operated ships has created an intricate network of responsibility.

The intent is to ascertain if any economies of scale or economies of scope are derived from centralizing control over special purpose ships and if the current system captures them for the appropriate commands. Also to be considered is any potential opportunity costs and transaction costs associated with decentralizing the program.

C. DEFINITIONS

For the purpose of this thesis:

Economies of Scale. Eitan A. Avneyon's *Dictionary of Finance* defines economies of scale as the decrease in average production costs owing to the enlargement of the enterprise and increase of output. The economies of scale are achieved because fixed costs do not rise proportionally, and are absorbed by a larger output and by specialization, or by the use of production processes with a lower variable cost per unit. Usually such processes have an optimal, minimum cost level, beyond which efficiency decreases, whether due to management capacity limitations, lack of flexibility, or vast investment costs, etc. which causes diseconomies of scale.

Economies of Scope. Edwin Mansfield's *Applied Microeconomics* describes economies of scope as economies "...resulting from the scope rather than the scale of the enterprise. They exist where it is less costly to combine two or more product lines in one firm than to produce them separately. [Ref. 11]"

Per Diem Rates. The stabilized daily billing rates applied 365 days per year per ship. The per diem rate charged to customers is broken into direct and indirect costs. Direct costs are the costs which can be applied to an individual ship, usually operation costs. Indirect costs are those which cannot be attributed to an individual program. The indirect costs include the total costs to run MSC headquarters and area commands. The indirect costs are termed 'overhead' by MSC.

Privatization. "Privatization is the process of changing a public entity or enterprise to private control and ownership. It does not include determinations as to whether a support service should be obtained through public or

private resources, when the Government retains full responsibility and control over the delivery of those services. [Ref. 10]"

Opportunity Cost. An opportunity cost is the value of the alternative forsaken for the one selected. It is not the monetary cost, but the cost of what has been given up. "The maximum worth of a good or input among possible alternative uses. [Ref. 12]"

Special Mission Ship Sponsors. Department of Defense(DoD) agencies and services with specialized purposes whose missions require ships to perform certain operations.

Transaction Cost. The additional, usually hidden cost, of changing the way of doing business. It is a conversion cost.

III. PROBLEM DEFINITION

The critical step in conducting a case study is correctly identifying the problem. The symptoms of the underlying problem are often cited as the central problem. Usually, addressing these symptoms does not deal with the crux of the problem. Thus, like weeds, the issues will keep coming back. However, the symptoms can help define the true essence of the problem.

A. PROBLEM SYMPTOMS

The symptoms which have surfaced at MSC and led to this study are rooted primarily in the relationship between MSC and the special mission sponsors. The issues identified during this thesis research include:

- Decision making in MSC is both slow and removed from the sponsor
- Special mission ship operating requirements are very complex and time intensive to satisfy
- MSC is perceived as a quasi-monopoly by its customers
- Some sponsors perceive they are paying more than the fair market value
- Some sponsors are attempting to gain operational control of their ships

1. MSC's Infrastructure

MSC's structure slows decision making and removes it from the problem. A large headquarters staff, four area commands, and three field commands (see Figure 2) cause long response times for inquiries and decisions. Some responsibilities fall between the cracks. MSC's structure has basically been a classic U-form organization, formed around business functions. This type of organization

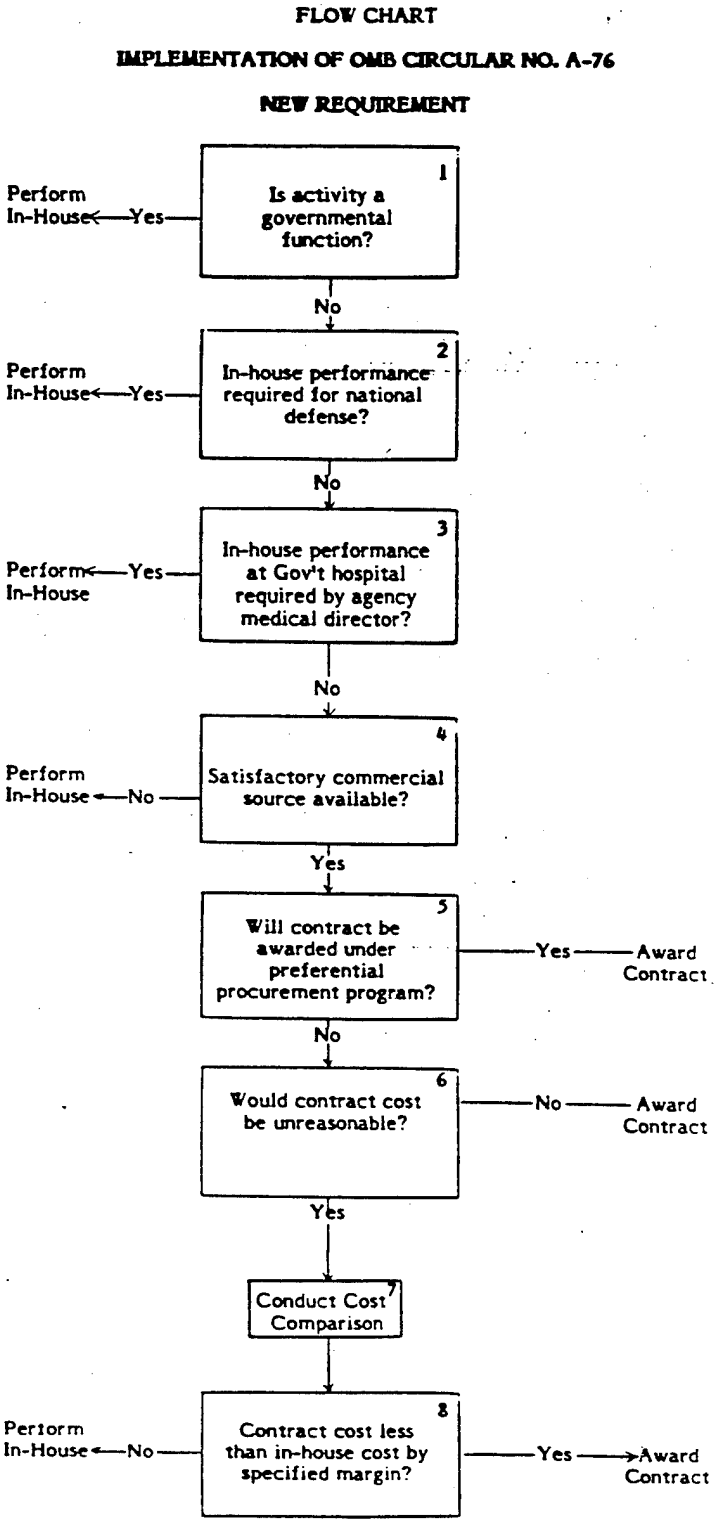

Figure 2. MSC's Old Organization Chart

requires collaboration across all the directorates within the agency; no one directorate can conduct an entire mission independently. Only the Commander of MSC and his top staff have access to multi-functional information and the full scope of business transactions. As MSC has grown in size and intricacy, the collective direction and coordination has caused the organization to become too complex and unresponsive to its customers. The U-form organization is not an efficient structure for a large and complicated firm. [Ref. 13]

There have been instances in which ship sponsors did not receive information in a timely manner. Under the old structure, which was in effect until February 1996 (the new structure at this time is not fully implemented), no office or person was held accountable for a program mission. The staff managing operation requirements were all located in different departments and in different locations. The individuals would report to their functional department heads or area commanders; for an individual program there was no clear chain of authority. The sponsors dealt with a multitude of contacts and would be required to call individuals directly in each department or command for information pertaining to their ship(s). Several times sponsors would receive information, such as information concerning a flood in an area of a ship, from their on-board staffs days before MSC headquarters personnel received word from the port engineer.

Further, there were often delays to ship contractors in getting decisions approved. This would impede the ship's schedule. This was identified in the December 1995 GAO/NSAID-96-41 report as one reason contractors tried to circumvent the system. The report further stated upper-level management provided minimal leadership and the contracting officer's representative had little authority to act independently. [Ref. 14]

These problems indicate a organizational structure unsuited for the mission performance requirements. The large unwieldy size and multiple management

layers, combined with decentralized accountability for individual programs, strained relations between MSC's vendors, customers, and internal directorates. The fragmentation and resulting problems were one reason that SMS sponsors perceived that they were not getting fair market values for the services being provided. The structure is being changed, but, as in any relationship, it will be difficult for MSC to regain the full trust of the sponsors that things will be permanently changed for the better.

2. 1984 Implementation of the A76 Most Efficient Organization (MEO)

In 1984, MSC was required to compete contractually to operate of the special mission ships. First, a cost study was performed detailing the procedures for achieving the most efficient organization (MOE). Next, a statement of work (SOW) and quality assurance plan were prepared. Using the SOW, an in-house cost estimation was done. Then a solicitation of bids was conducted, and finally a cost comparison performed. After this process, the oceanographic ship operations in the Special Missions Program became commercially contracted-out and MSC retained responsibility for contract administration and oversight. The remainder of the special mission ships' contracts were awarded to MSC. To win the contracts, MSC drastically cut required crew manning levels. [Ref. 4]

The commercial firms are required to man, operate, and perform maintenance and repairs on the ships including installed equipment. The contractor is responsible for providing qualified crew members and staff (port engineers, port captains, support staff, etc.) to support the ships. Any crew members working for the contractor are referred to as contract-mariners, they are not government employees like the civilian mariners who man the MSC operated ships. The civilian-mariners are civil service employees. [Ref. 15]

The contractor must also meet physical and information security requirements, and provide and maintain a quality system. The contractor must

furnish "...all necessary personnel, facilities, equipment, consumable supplies, provisions, medical equipment, and supplies, services ..." Operating the ships includes deck and engineering operations. The contractor is also required to provide material support and hotel services to meet sponsor requirements. Other specifications include communications, required training, and general administrative support. [Ref. 15]

The in-house contracts have the same SOW requirements. As the SMS manager, MSC provides support services to all the ships, contractor-operated and MSC operated. These support functions include: type commander responsibilities, ship introductions and conversions, life-cycle maintenance, comptroller responsibilities, procurement activities for major purchases such as overhauls, legal counsel, training, inspections, mission requirements coordination and management, insurance fund for emergencies, world-wide ship support network, and general and administrative duties.

Implementing the A76 program compounded the difficulties in managing the sponsors' very diverse requirements in the Special Mission Program. The smallest program of ships in MSC has the greatest multitude of mission requirements. For example, the oceanographic ships do hydraulic, gravity, and magnetic surveys and graph the ocean floor. The range ships provide platforms for missile range safety and collecting telemetry data. The missile range instrumentation ship USNS OBSERVATION ISLAND monitors compliance with strategic arms treaties and supports domestic test programs. The missile range instrumentation ship, the USNS RANGE SENTINEL, supports Fleet Ballistic Missile flight tests and the navigational test vessel USNS VANGUARD conducts research on navigational systems (Strategic Systems Programs Office has plans to combine missions from both the VANGUARD and RANGE SENTINEL on one vessel.) There is also a cable laying ship and an acoustic research vessel in the Special Missions Program

directorate (PM-2). [Ref. 1] With the TAGOs and CHOUEST class ships added to the repertoire, the disparate mission taskings increased.

The SMS program juggles a variety of different missions for a relatively small number of ships; the small mission area comprises only about 7% of MSC's total applications of funds [Ref. 16]. The Special Missions Program also has civilian mariner operated ships, contractor operated ships and four time-chartered ships (the CHOUESTs). Managing special mission ships has become increasingly more time intensive.

By having the various special support ships' missions competing in the A76 Most Efficient Organization (MEO) program, the program area became too complex. It may have been better if the SMSs had been competed as one package with the different requirements for each mission spelled out, or all individually contacted-out, or if none of the special support ships had been contracted-out. Currently, PM-2 has twenty-nine ships handled in three very different ways with only 61 people assigned to the program. Furthermore, with both contractor and civilian mariner manned ships, PM-2 is using resources for both the contracting oversight and civilian mariner requirements. Much like the Fleet Navy, MSC handles all aspect of responsibility for their civilian mariners, including pay, clearances, training, leave, job assignments, and medical care. MSC is losing what economies of scale could be achieved by having all the ships handled in the same manner.

MSC has been accused of poorly managing the oversight of their contractor-operated ship programs. The GAO, in their December 1995 report, cited several contracting oversight problems. Some problems mentioned were in the areas of crew-performed repairs, review of subcontract invoices, and oversight of overhaul repair work. The GAO mentioned that field level people only checked contractor invoices for engineering content, no one verified that the work had been done or

the goods received. The report further stated that no one reviewed supporting documentation to verify either overtime work or the reports' accuracy. Insufficient standardized contract requirements and enforcement procedures were also cited. [Ref. 15]

A potential reason for the contract management problems in the Special Mission Program may be attributable to the sudden requirement to implement A76. MSC had less then 24 months to follow the A76 procedures and no experience in conducting an A76 cost comparison [Ref. 4]. Since it is virtually impossible to cover for all eventualities in a contract, it appears MSC still performs many of the functions in the same manner as when they were civilian-mariner operated. For example, MSC was cited by the GAO for a lack of standard guidelines to develop personnel requirements. It was mentioned that MSC's security office processes the contractor-operated ships trustworthiness evaluations; this is a function which could easily be included as a contractor requirement with MSC's security office conducting compliance oversight. Many of MSC's SMS contractual problems seem to stem from the headquarters and area commands having an over-abundance of ship operations responsibilities for both the contractor-operated and in-house operated ships. If the SMSs were all contractor-operated and the statements-of-work included all functions which could be privatized, MSC personnel could concentrate their SMS resources on contract management and oversight.

The A76 mandated cost comparison had a tremendous impact on ship operations in the Special Mission Program. Unfortunately, no one has thoroughly examined whether DoD realized any cost savings or benefits by either commercially operating the oceanographic ships or by modifying those contracts that remained in-house. An in-house estimate by MSCLANT estimates:

> ...The Range Instrumentation ships all were under budget all 5 years with est of 3.4M dollars. USNS COMFORT was under by an est 1.5M dollars. The 3 LANT Fleet Tugs have completed 3 years under this program with an est 2.7M dollars under budget. [Ref. 17]

But, no official or complete cost-benefit analysis has been conducted. Table 1 summarizes the cost comparison conducted on the SMSs, under the A76 program [Ref. 18]. The total costs associated with conducting the MEO competition was never determined, nor compared against any savings that the program may have

Table 1. Results of Cost Comparison Under OMB A-76

Ship Type	Number of Ships	Low Commercial Offer	MSC Cost	Decision	Date of Decision
Tanker	3	$44,915,290	$ 28,518,657	MSC	11-12-82
Oceanographic	12	89,985,701	114,789,090	Contract	12-12-85
Hospital	2	14,431,294	8,149,255	MSC	07-02-87
Cable	5	64,597,225	40,981,142	MSC	10-30-87
Range Instrumentation	5	52,119,072	33,218,449	MSC	03-08-88

generated. The A76 program did add more demands on an already time intensive mission area. Off-setting cost savings have not been documented.

3. DBOF Enactment and Severe Budget Cuts Coincided

DBOF was implemented almost simultaneously with severe DoD budget cuts. DBOF raised the ships' per diem rate; budget cuts reduced the ship sponsors' budget and encouraged closer cost monitoring. Under DBOF the sponsors should theoretically be fully funded for a ship's direct and indirect costs. Unfortunately, funds are appropriated at the service level and do not always filter down to the smaller mission areas as initially intended. There is tough competition for scarce resources within every DoD command.

The problem is illustrated in a August 1992 internal memorandum from MSC's comptroller directorate, N8, to its operations directorate, N3. The memorandum explains that DoD downsizing made it hard for some special mission sponsors to defend their budgeting requirements. In other cases, funding for SMS was cut to be used for other programs. The memorandum mentioned that NAVSEA was experiencing both of these problems as a result of the high per diem rates for the USNS GLOVER and USNS HAYES. [Ref. 19]

4. MSC as a Quasi Monopoly

Because MSC is a quasi-monopoly, sponsors believe they have limited incentives to control costs. MSC is a government induced monopoly for operating the special purpose ships. Thus, MSC is in an auspicious position where they could display opportunistic behavior. When a firm can potentially take advantage of its customer, whether or not it acts opportunistically, the customer tends to be uneasy. [Ref. 13] Sponsors are forced to go through MSC to operate their ships and must reimburse MSC for their services. In effect, sponsors give MSC mission requirements and then pay the bills for the costs to carry them out. They cannot compare costs across providers or rely on the market to keep prices fair.

5. SMSs' Sponsors Perceive Unfair Per Diem Charges Under DBOF

The complexities of DBOF has created incertitude in the billing process among both sponsors and non-comptroller employees. The lack of standardized and publicized per diem rate procedures for the SMSs has further complicated the situation. MSC has not formalized the budget analysts overhead allocation method, as were the industrial fund budgeting procedures through COMSC Instruction 7130.1k.

DoD participants are very low on the DBOF learning curve. DBOF is a new method of doing business and a major change which still has many issues to iron-out. The March 1995 GAO report (GAO/AIMD-95-79), "Defense Business

Operations Fund: Management Issues Challenge Fund Implementation," found that DBOF lacks a systematic process to ensure that policies are carried out consistently by all the agencies and services. GAO also questioned the accuracy of financial reports across DoD.

One problem associated with DBOF is unstable per diem charges. The current policy requires all gains and losses by an agency to be compensated by increasing or decreasing DBOF prices to keep the net operating profit zero over time. To accomplish this, the annual profit or loss, called the Accumulated Operating Result (AOR), is applied to future year prices. This has de-stabilized the rates for SMSs' sponsors. The AOR causes the actual rates to spike over the years as variances are applied to achieve the zero net balance. [Ref. 7]

FY94 was an extreme example of this rate variance. There was a 50-65% increase in some sponsor rates [Ref. 20]. MSC had a positive AOR (i.e., profit) in FY 92. The positive AOR for FY92 lowered the FY93 per diem rates. This helped generate a positive AOR in FY93 as well. The positive AOR for FY93 was to be applied to FY94. However, a NAVCOMPT/OSD policy required excluding all prior years' AORs. Thus, the FY94 rates reflected actual costs rather than FY93's artificially low rates. In addition, some sponsor requirements and programs changed, causing a significant rate variance for the customers. [Ref. 7] (Note that NAVCOMPT mandated the FY94 policy in an effort to fix some problems in implementing DBOF procedures in other Navy funds. It should be a one time occurrence.)

In addition, NAVCOMPT can mark a budget item (a line item decrease in a budget request) if they believe there is an acceptable risk that all the requested money will not be required. For example, suppose they cut Maintenance & Repair (M&R) from a budgeted $5 million to a projected $3 million, and the actual cost is $4 million. Further suppose that the next fiscal year budget is $5 million. The

total budget request, including the $1 million negative AOR, will be $6 million. Thus, that years' rate will spike up from the previous year by $3 million. [Ref. 7] Of course this process can also work in favor of the customer by preventing them form having to pay for emergencies in the year they occur. In effect, it acts as a buffer giving them time to request the needed increase. No one complains when the rates are lower than the true costs, but NAVCOMPT captures the money and it cannot be used for other requirements. DBOF provides cost visibility, but the incentives to cut costs must come internally. The real problem for the sponsors is the instability the process creates in the rate structure.

A derivative of this problem is the sponsors' perception that they are paying too much for MSC's services. For one, the sponsors perceive they are paying more than their fair share of overhead costs. Most of those interviewed felt they had not received an adequate breakdown of what the overhead costs entailed and how the allocation was determined. [Ref. 21] MSC allocates overhead to SMSs by first surveying directorates and area commands to determine how much time each person spends on the SMS program. These figures are translated into total work years. SMS's allocation of the total overhead cost is that program's total dedicated workyears divided by the total workyears available at MSC for all programs. [Ref. 7]

For SMSs, the dollar amount of the program's total overhead cost allocation is determined. Those overhead costs which can be attributed to a ship are applied to the ship's total expenses. Next, each ship in the program pays a pro-rata share of their direct expenses based on their pro-rata share of total direct expenses. This overhead cost is then added to the direct operating costs of each ship to derive total expense. The example given to the author to clarify this procedure is presented in Table 2 [Ref. 7].

This process is not clearly understood by anyone beyond the comptroller directorate. Furthermore, since program overhead is determined by pro-rata workyears, the process only looks at the labor half of the two-part overhead breakdown; it ignores the capital half. Additionally, at the ship level it is not always correct to assume the ships with the higher direct operating expenses are the most overhead intensive. The USNS HAYES is an example of this point. In 1994, MSC and NSWC negotiated for operational control of the ship, many indirect MSC resources were likely expended on the HAYES while direct operating expenses declined. In a April 14, 1994, Draft Naval Oceanographic Office Memorandum, "Direct versus MSC Contracting," NAVOCEANO expressed concern that its overhead rate had increased from six to almost ten percent. It has

Table 2. SMS Overhead Allocation

Suppose total MSC DBOF-N overhead was calculated to be $100,000,000. It was determined that the Special Mission Program's share of MSC's total overhead is 13%. PM-2's dollar share of total overhead equates to 13,000,000 and $3,000,000 of this can be directly attributed to specific ships. Therefore, $10,000,000 of the overhead are indirect costs. If there are 5 ships in the program the expense breakout would look like this:

	SHIP #1	#2	#3	#4	#5	TOTAL
TOTAL DIRECT SHIP EXP	10.0	8.5	5.5	15.0	7.0	46.0
DIRECT OVERHEAD $3M	.8	.2	.4	1.0	.6	3.0
G&A OVERHEAD ($10m x PRORATION %)	2.2	1.8	1.2	3.3	1.5	10.0
TOTAL PER DIEM EXP	13.0	10.5	7.1	19.3	9.1	59.0
OVERHEAD % (TOTAL OH/DIR EXP)	30%	23.5%	29%	28.6%	30%	28.2%

since increased to 13 percent. [Ref. 22] Every sponsor interviewed believed the overhead rate they were paying was excessive, and that they were probably paying more than the cost of the resources used in their programs. Whether this is true or not, the perception is there.

The GAO and some sponsors feel there are inadequate internal cost controls. With the multi-layered echelons, there are some duplications of effort. Both the headquarters and area commands provide engineering and operations oversight. Also, there have been problems in the past with mariner overtime abuses. Additionally, funds being held on contingencies have been returned too late to be used for other purposes. In May of 1995, the MSC command returned $1.4 million dollars to the Naval Meteorology and Oceanography Command. It had been held for prior-year work orders and was returned too late to be used on other requirements. In one instance, 83% of the funds held in contingency were returned. This lost buying power is especially detrimental with the reduced budgets everyone is scrambling to operate within. [Ref. 23]

6. Some Sponsors Want Operational Control of their Ships

> ... firms facing resource dependence must engage in some form of organizational elaboration in order to reduce that dependence. [Ref. 13]

The customers are reacting in the only way they can to what they perceive as opportunistic behavior by MSC: some are trying to get approval to use market style competition to lower per diem rates. They are trying to force MSC's hand to follow the goal of A76 by creating competition to lower cost and improve service.

Since 1992, the Naval Surface Warfare Center (NSWC) has tried to directly contract the USNS HAYES. In 1994, the HAYES replaced other vessels which were under the operational control of NSWC's Carderock Division. In a 10 Nov 1994 Memorandum to the Deputy Chief of Naval Operations (Resources, Warfare Requirements and Assessments), the Director of the Submarine Warfare Division of the Office of the Chief of Naval Operations requested transferring operational control of the HAYES to NSWC citing reduced costs. A Request For Information (RFI) revealed that "...ship operators are available, interested, and at half the cost

of MSC operations." [Ref. 24] The contract cost was on average $698,402 a year less than MSC's cost. [Ref. 25] MSC retained control only after MSC and NSWC jointly found ways to decrease the ship's direct operating costs.

In 1994, four new oceanographic ship contracts were awarded to Dyn Marine Services of DYNCORP. The total DYNCORP per diem rates for the four ships was $37.6K; the per diem charge by MSC was $81K [Ref. 26]. This has led NAVOCEANO to request information from other commercial firms. Similarly, in their efforts to consolidate the RANGE SENTINEL and VANGUARD, the Strategic Systems Program Office (SSP) received proposals from commercial contractors. Finally, on March 30, 1995 the Assistant Secretary of the Navy (Research, Development, and Acquisition) authorized the Commander, Space and Naval Warfare Systems Command to release a solicitation for combined operations for the USNS ZEUS. [Ref. 27]

Most of the SMS sponsors have been receiving proposals from outside contractors. These proposals indicate that contractors can perform the same services as MSC at significantly reduced costs. Affordability is the real driver of customer satisfaction.

B. THE PROBLEM

Should the special mission ships be centralized under MSC or decentralized and full control given to the sponsors? It must be determined whether combining SMS operations under a responsible agency is cheaper or more expensive then decentralization. The question boils down to what should or should not be decentralized to the special mission ships sponsors'. The problem faced by MSC and the ships' sponsors is determining where the best interest of the tax payers is served for supporting the SMS operations.

IV. ALTERNATIVES

As stated in Chapter II, the four questions addressed in this study are:

1. Do any economies of scale or economies of scope exist to justify centralizing the Special Mission Support Force mission?

2. Are there any economies of scale or scope that are not being captured under the current system?

3. If there are economies of scale or scope, are they being correctly allocated to the sponsors?

4. What is the optimal allocation of responsibility for the operation of special mission ships?

This chapter addresses the first three questions concerning the existence, realization, and distribution of economies of scale and scope in operating SMSs. The central issue can be defined as: should the special mission ships stay centralized under MSC or should their operation be decentralized to the sponsors' responsibility? Chapter V evaluates the alternatives which have been presented and discusses the optimal allocation of responsibility as related to the findings.

When discussing transactions and transaction costs, some economists begin by looking at the rational for having both markets and hierarchies. In "The Markets and Hierarchies Perspective: Origins, Implications, Prospects," economist O.E. Williamson explains the reason both firms and markets exist. Each option (firm or market) has the potential to increase efficiency under different circumstances. This can be applied to the question of centralizing and decentralizing Special Mission Program ships. Centralizing the special purpose ships under MSC represents a hierarchical (firm) approach while decentralization involves a competitive market approach. Therefore, the problem is whether the operations would be better executed within MSC or competed within the market. Williamson's model is summarized as follows:

> The general approach to economic organization employed here can be summarized compactly as follows: (1) Markets and firms are alternative instruments for completing a related set of transactions; (2) whether a set of transactions ought to be executed across markets or within a firm depends on the relative efficiency of each mode; (3) the costs of writing and executing complex contracts across a market *vary with the characteristics of the human decision makers who are involved with the transaction on the one hand, and the objective properties of the market on the other hand*; and (4) although the human and environmental factors that impede exchanges between firms (across a market) manifest themselves somewhat differently within the firm, the same set of factors apply to both. [Ref. 28]

The goal is to evaluate which alternative will yield the taxpayer the highest social net benefit. To accomplish this goal, the tangible and intangible benefits and costs need to be identified. Ignoring sunk costs, the opportunity costs, interactive effects and the transaction costs of each alternative must be examined. The alternative which minimizes the total tangible and intangible costs should be the one chosen.

There are three alternatives for the operation of special mission ships:

1. **Centralization.** The status quo.

2. **Decentralization.** Give operational control to the sponsors.

3. **Centralization with Decentralized Operational Control and Modifications.** Ensure economies of scale and scope are realized and properly allocated.

A. ASSUMPTIONS

A cost-benefit analysis was not conducted for the following reasons:

- There currently is not any actual cost data for decentralized SMS operations.

- The request for information (RFI) proposals received by the sponsors are not true gauges of the market costs because they are not offering comparable services as those MSC is currently providing.

- The needs of individual sponsors needs are very different, so it would be hard to generalize from a limited number of cases.

These reasons make a detailed quantitative cost-benefit analysis impossible. This case study is a qualitative analysis of the program. It provides an objective forum to define the trade-offs of each alternative and evaluate the one which provides the most efficiencies. Since it is difficult to measure the benefits and costs in dollars or even a common metric, the study is in essence a cost-effectiveness analysis. [Ref. 29]

B. CENTRALIZATION

Centralization implies one point of accountability. MSC is acting as an agent on behalf of the special mission ships sponsors, the principals. The sponsors commission MSC to act on their behalf in operating their ships. [Ref. 10]

1. Provides Economies of Scale and Scope

Some of the primary reasons to have a centralized structure is to achieve any potential economies of scale or scope. As the DoD sealift provider, MSC has a great deal of ship operating requirements and skills. Ship operations, whether contracted-out or provided in-house, require a great deal of support services as mentioned in Chapter III. The SMSs can draw on the potential economies of scope of these support services which come with all types of ship operations. The economies of scale and scope are derived from the direct and indirect overhead support functions provided by MSC.

a. Economies of Scope

Economies of scope generate savings by providing a variety of related products. With economies of scope, a broad range of services are provided at lower total costs relative to producing these items separately. MSC achieves several economies of scope for the Special Mission Program, primarily in its overhead functions. Potential economies if scope include: 1) ship management, 2)

type commander (TYCOM) responsibilities, 3) life cycle maintenance, 4) supporting remote operations, and, 6) legal support. These responsibilities all require similar activities even though they may be performed for a diverse set of ships and missions. This generates economies of scope.

In ship management, MSC coordinates and tracks all responsibilities in operating a Navy ship. Just a few economies of scope involved in the SMS ship management include: ship configuration, financial management, scheduled and unscheduled maintenance and repair, overhauls, mission requirements and steaming schedules, port calls, security, logistics support, and the documentation required for all the transactions. In managing a ship, MSC considers its entire life span.

MSC is the designated TYCOM for service-unique special support ships. The agency provides operational oversight, coordination with Fleet CINCs, and compliance with: 1) all U.S. Coast Guard/ABS and ISO 9000 standards, 2) Navy mandated pollution control, 3) ship conversions and 4) manning and training standards [Ref. 30].

MSC's support services include a very through life-cycle maintenance program. The program includes lube oil analysis, vibration analysis, predictive/ condition indicators and comprehensive engineering standards. The program is designed to reduce the life-cycle costs of operating a ship, and secure the best long-term performance from each vessel.

Another economy of scope for SMSs is MSC's world-wide ship support network. This is extremely valuable to the special mission sponsors because many of their missions are in remote locations. MSC can provide emergency spare parts, foreign port assistance, and a myriad of other services to ships all over the world. U.S. ships are prohibited from having maintenance performed in foreign ports, but MSC is able to obtain waivers for SMSs with special needs when the ship cannot return to the U.S. in a timely manner. In general, waivers are very difficult to

obtain, but they are easier for MSC to obtain because of MSC's unique position as type commander and TRANSCOM component command for strategic sealift.

MSC also provides its customers legal support in several areas, including: maritime, admiralty, environmental, and contract law. This economy of scope is quite valuable and probably not fully appreciated by the sponsors. All four legal areas are very complex and require expertise in those fields. It would be very difficult or costly for a decentralized sponsor to have this legal advice and service so readily available. On the other hand, in the long run it could cost the sponsor a great deal of money if they do not have experts in maritime, admiralty, environmental, and contract law reviewing potential contracts and actions, and investigating possible claims.

b. Economies of Scale

Economies of scale occur when prices decrease as larger quantities of similar products are produced. MSC's PM-2 sponsors also gain economies of scale through MSC's overhead functions, particularly contract administration and management, and an insurance fund.

MSC's contract administration and management services include the contract award process, and monitoring and enforcing the contracts. More economies of scale are realized in the credibility of contract fulfillment by a known and experienced maritime agency. If each sponsor had control of their ship(s) they would all be required to have contract personnel with expert knowledge in ship operations. Another advantage to having a consolidated contract management office for special purpose ships is that it provides MSC more bargaining and enforcement power than a lone sponsor would have with commercial firms.

In addition, MSC provides SMSs an insurance policy to cover any unforeseen emergencies. Unforeseen repairs or accidents are very costly. MSC

maintains reserves for claims and accidents. MSC provides a safety net to its customers with a special fund to cover large unexpected emergency expenses. The sponsor receives time to request the appropriate funding from Congress without having to delay repairs longer than necessary. This can really help return the ship to operations as fast as possible. Like most insurance programs, it is less costly to provide on a larger scale.

2. Synergy of Expertise

MSC personnel and directorates have a synergy of expertise developed from extensive ship management experience. MSC is very high on the learning curve in all fields of ships operations, including: engineering, life cycle maintenance, manning and scheduling. The wealth of knowledge at MSC and the organization's reliance on shared information and data across all programs is critical to successful ship operations. The resources available to the PM-2 program manager enhances control over the ships. This expertise would be almost impossible for a customer to replicate.

3. Transaction Costs

There are transactions costs associated with decentralizing control to the sponsors. If the sponsor contracts out all aspects of ship operations they will need a very knowledgeable contract staff, and must be very careful to safeguard against contractual omissions and ambiguities. In a similar case, a study of public and private transit systems by James L. Perry and Timlynn T. Babitsky found no evidence that private contractors could manage public systems better than government workers. They found private contractors had only limited interests in increasing efficiencies and "...the provisions built into management contracts generally failed to give private managers adequate incentives to control costs." [Ref. 10]

Jay Barney and William Ouchi state that when there are few potential firms in a market, the costs of trying to achieve market competition are excessive:

> The existence of a small number of parties to an exchange increases the likelihood of opportunistic behavior, just as the existence of uncertainty/complexity makes bounded rationality operative, thus making it impossible for parties to an exchange to anticipate all possible future states in their relations. In such a setting, the costs of writing and enforcing a contract assuring all parties to an exchange of an outcome that all would deem as fair are high enough to be prohibitive. In this situation, a market would be an inefficient means of carrying forward a transaction, and it will be replaced by a hierarchy. [Ref. 13]

Currently, there are very few firms able to conduct ship operations for special purpose ships. Under these circumstances, decentralizing PM-2 would be cost prohibitive and inefficient.

SMS sponsors probably do not have enough information to accurately write contract specifications. In "The Market for 'Lemons:' Quality Uncertainty and the Market Mechanism" by George A. Akerlof, defines asymmetric information as information possessed by one party that the other cannot get without paying a very high cost and not until the exchange is complete [Ref. 31]. This concept can be applied to the special mission sponsors. They can not accurately access the total requirements of operating their own ships until after they have contacted them out. It is virtually impossible to specify a ship's operation contract in such detail that it will cover all eventualities. There is simply not enough information to precisely account for all contingencies in the transaction and the actual costs incurred. Centralizing control in MSC internalizes the information asymmetries.

C. DECENTRALIZATION

A competitive setting usually offers the greatest chance of getting the lowest price and the best service. Competition provides strong incentives for firms to

increase quality and minimize costs. When a situation is monopolistic, the potential exists for excessive costs and prices, and lower quality and productivity. This is why the SMS sponsors want to privatize. [Ref. 28]

1. Cost Savings

Decentralizing the special mission functions will allow each sponsor to exploit fair market competition in areas such as ship costs and service quality. The economist Paul Rubin put it succinctly, "market incentives for efficiency and low-cost production are the most powerful incentives available." [Ref. 29]

In *Competition in Government-Financed Services*, John Hilkes claims that a government monopoly introduces two costs resulting from the lack of competition: 1) allocative inefficiency costs and 2) production inefficiency costs. Allocative inefficiencies happen when prices are too high and output is lower than if there was competition. This causes the customers to be dissatisfied because they feel they are paying more for a product than its worth. Production inefficiencies occurs when more inputs are used than required causing higher prices. Hilkes believes in-house government operations run inefficiently without competition. With government monopolies, costs are not as obvious or relevant as in the private sector. There are few incentives to minimize costs. [Ref. 32] Competition with private providers under the A76 program appears to have been a one time occurrence for SMSs. Furthermore, when it was implemented it did not look at decentralizing the ships' control. Therefore, MSC's control over SMS is currently

viewed by the sponsors as a monopoly. Privatizing the special mission platforms would presumably help eliminate the allocative and productive inefficiencies.

Alleviating allocative and productive inefficiencies, through decentralization can help reduce per diem rates. For example, in 1993 BT Marine (BTM) submitted an unsolicited proposal to SPAWARs for the combined technical support and operations of two ships for $26 million; this represented a savings of approximately 40 percent over MSC's projected per diem rate for the two ships [Ref. 20]. Most Special Mission Program sponsors received unsolicited proposals from contractors which offered greatly reduced total operating costs. With the major budget cuts, sponsors have a higher sensitivity to rate changes. The reduced rate structures may enable sponsors to better meet mission requirements. The problem is the contracts do not include the full range of overhead support services provided by MSC. It is very difficult to predict the cost of reproducing these functions at the sponsor level. Therefore, because the contractor rates do not include all the support functions provided by MSC, per diem charges are not a fair comparison between MSC and the contractor.

2. Autonomy and Flexibility

Decentralization will provide the sponsors both autonomy and flexibility, a major advantage in such a dynamic climate. SMSs missions are extremely diversified and the requirements have a much higher degree of variability than any other program area. Privatization will cut through the many layers of bureaucracy

at MSC. Moreover, the platform sponsors will have the flexibility to combine operations and technical support contracts.

3. Ownership

The A76 implementation cost only compared MSC oversight and contracting-out, not decentralizing operations to the sponsors. Without considering this third option, some value of fair market competition was lost. Additionally, when the cost proposals were submitted, the government needed to only include those personnel costs which were:

> ...associated with direct supervisory positions one level higher than that activity under review and, administrative support positions which would be completely eliminated if the function were contracted out. Commercial offers generally include a full proportionate share of their overhead burden in order to recover the costs of doing business. [Ref. 4]

Thus the cost of operating the civilian mariner pool, almost every administrative MSC support directorate, and any other overhead cost which was used by more than the special mission ships was not included in MSC's proposal.

Conversely, commercial bids did not include maintenance performed by the ships' crews or operating costs for what the commercial operators deemed unnecessary departments. Only the required industry or Coast Guard minimums for manning were factored into proposals. [Ref. 4]

By gaining full ownership of their missions, sponsors will gain a great deal from productivity and efficiency improvements brought on by privatization. Because it is monopolistic, MSC has weakened accountability, less pressure for efficiency, and a reduced incentive for cost control [Ref. 10]. Moreover, application of the A76 program complicated the management of SMSs

counteracting many of the economies achieved through centralization. Furthermore, the sponsors do not necessarily have to give-up all the economies of scope and scale they received from MSC. Under DBOF it is possible for them to contract with MSC for specific purposes [Ref. 33].

D. CENTRALIZATION WITH DECENTRALIZED OPERATIONAL CONTROL AND MODIFICATIONS

Centralizing the SMSs operations provides the sponsors benefits from economies of scale and scope along while maintaining the synergy of expertise. By adding three modifications most of the issues discussed in chapter III will be addressed. These modifications are: 1) commercially contract-out special mission ship operations, 2) make some internal management improvements, and 3) once again fund overhead costs by appropriations.

1. Commercially Contract-Out all SMS Operations

To secure cost savings through competition, all special mission ships operations could be contracted-out while simultaneously centralizing all overhead support functions under MSC to retain the scale and scope economies. Privatization in general saves money. A 1987 U.S. Congressional Budget Office (CBO) report, which analyzed the cost savings from the A-76 program, found an average savings of over 35% for DoD functions which were contracted out and a cost savings of at least 20% for the functions which remained in-house [Ref. 32]. Table 3 shows the unadjusted data for the cost savings that CBO found for the years 1984 through 1986. Commercially contracting-out all direct ships operations could potentially save money.

Privatizing all the ship operations would also streamline the necessary controls and oversight issues required to manage the ships' operational requirements. Instead of having some ships civilian-mariner operated and some contractor-mariner operated, all would be contractor-operated (the time-chartered

CHOUEST ships were not considered here because they have only recently been

Table 3. DoD Cost Reductions from Contracting-Out Under A76

	1984	1985	1986
Average Savings from Contracting	41%	38%	38%
Average Savings from Internal Management Improvement	22%	20%	23%

placed under the SMS program). Thus, PM-2 would not have to operate under two very diverse set of rules and regulations. Also, contracting-out the whole program will decrease the program's overhead resources, such as the manning and crew requirements activities.

2. Internal Management Improvements

The change in organization structure from function oriented to program management oriented will help provide the economies of scale and scope which are currently not being realized or not being correctly allocated. A program management organization roughly correlates to an M-form organization. An M-form organization consists of partially diversified business divisions with shared resources and synergism between divisions. The new structure will, hopefully, expedite decision-making and provide a point of accountability. [Ref. 13]

3. Overhead Costs Funded through Appropriations

DBOF was established to help managers reduce costs by providing cost visibility. DBOF combined the Stock Fund and Industrial Fund. When these funds were separate accounts, activities were often more worried about cash than cost. Money could not be transferred from one fund to the other, so activities and options were determined on the basis of which fund had cash available rather than

on cost. DBOF combined the two funds into one pot of money so the customer could choose the low cost alternative. Under DBOF, activities recover their costs from their customers. Since the customers pay for the services, they will want to buy the less expensive alternative. [Ref. 33]

MSC does not operate like a typical DBOF activity. The customers paid for their direct costs before DBOF was implemented. These costs are more directly comparable to the private contractors' proposals for ship operations. DBOF added the indirect costs to MSC's per diem rates. The customer doesn't have any control over overhead costs. Furthermore, these costs are not typically included in the private contractors proposals. Therefore, DBOF distorts the sponsors comparison between centralization under DBOF and decentralization. With overhead costs paid under an appropriations fund, the Commander of MSC would still have cost visibility of internal costs, enabling cost management and cost reduction. Budget constraints make all DoD agencies very concerned with controlling all costs, including overhead; MSC is no exception.

Another problem DBOF has caused at MSC is tremendous variability in the rates charged to the special mission sponsors. With unstable rates which vary from the projected rates, the small platforms are not always guaranteed full reimbursement when the rates spike. Most SMS sponsors' programs are not at the level of visibility to have their services bring SMS's budget overruns brought to Congress. Reverting back to customers paying for direct expenses only and MSC having appropriated funds for indirect costs, will maintain equity in MSC's rate structure, and relieve sponsors and non-comptroller employees of confusion and misperceptions.

V. RECOMMENDATIONS AND CONCLUSION

A. INTENT

This thesis examined whether centralizing or decentralizing the Special Mission Program would provide the best value to the tax payer. The goal was first to define the motivation for examining the options of centralizing or decentralizing the management of special mission ships. After identifying the issues, the next step evaluated which alternative yield the highest net benefit. In order to do so, the tangible and intangible benefits and costs of each alternative were identified. The alternative which minimizes the total tangible and intangible costs should be the one chosen. To evaluate the alternatives, the thesis addressed several research questions:

1. Do any economies of scale or economies of scope exist to justify the centralizing of the Special Mission Support Force mission?

2. Are there any economies of scale or scope that are not being captured under the current system?

3. If there are economies of scale or scope, are they being correctly allocated to the sponsors?

4. What is the optimal allocation of responsibility for the operation of special mission ships?

B. RECOMMENDATION

The three alternatives presented for operating special mission ships include:

1. **Centralization.** The status quo.

2. **Decentralization.** Give operational control to the sponsors.

3. **Centralization with Decentralized Operational Control and Modifications.** Ensure economies of scale and scope are realized and properly allocated.

The preferred recommendation is:

Centralization with Modifications.

1. Commercially contract-out all SMS operations
2. Improve internal management functions
3. Fund overhead costs through direct appropriations

The modifications to the current organization will resolve many of the factors driving the SMS sponsors towards contracting through the option of market competition. When discussing the causes and consequences of resource dependent relations between economic actors the book *Organizational Economics* states:

> ...Because firms are constrained in this manner, it may be possible to observe exchange relations characterized by high resource dependence that are very stable and efficient over time, in which relatively little exploitation of exchange partners takes place.... The arguments of organizational economics also suggests that interpersonal relations can help resolve problems of opportunism associated with resource dependence. [Ref. 13]

MSC's previous structure did not allow the sponsors and MSC staff to cooperatively obtain all the benefits from the scale and scope economies realized by centralizing the SMSs operations. The re-invention has great potential for correcting this shortcoming by changing from a stove-pipe, unresponsive U-form organization to the more customer focused and accountable M-form organization. The new structure is on the right path. This evolution could be enhanced by streamlining the oversight requirements. To streamline oversight, MSC could contract-out the PM-2 ships. It would also help if indirect costs were again covered by appropriated funds. These two modifications could greatly improve the total net benefits realized by the Special Mission Program.

C. ADDITIONAL SUGGESTIONS

If overhead is not funded through appropriations, MSC needs to educate staff and customers about the DBOF processes. Only the comptroller directorate (N8) comprehensively understands the customer billing procedures. DBOF itself is a new way for the government to do business. Variance can be attributed to the learning curve and to the problems in the system. Almost any major change will go through a rough period before it can be smoothed out. The severe budget cuts in conjunction with DBOF's growing pains have greatly contributed to the sponsors' desires to directly control their ships. The customers need to be informed buyers to remove their doubts.

Reports should also be standardized and terminology simplified so the non-budget analyst can easily understand where costs are derived and why variances occur. Likewise, cost accountability down to the ship operations level would improve incentives to control costs. Lastly, better communication is vital both between MSC and the sponsor and within MSC. Implementing the new program management organization is a good start toward providing better communication, both externally and internally. If manpower constraints permit, a central point of contact to field sponsors' questions, would help restore the confidence lost in the past.

D. FURTHER AREAS OF RESEARCH

Some suggested follow-on studies are:

- A cost-benefit analysis of SPAWAR's USNS ZEUS after sufficient time has elapsed. A cost-benefit analysis should compare the ZEUS's direct and indirect costs when it was under MSC's control and after it has been privatized under SPAWAR's control. This quantitative analysis could serve as a yard stick for evaluating the centralization/decentralization question.

- A case study to determine if the estimated cost-savings for contracting-out oceanographic ships under the A-76 program were

realized. Similarly, actual cost savings should be verified for those A76 programs retained in-house, were the projected savings realized.

- The general and administrative costs in MSC headquarters, area commands, and field activities should be examined. Can operations be conducted more efficiently to cut costs?

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